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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,260	03/31/2006	Takanori Uejima	36856.1424	6032

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EXAMINER	
GUZMAN, APRIL S	

ART UNIT	PAPER NUMBER
2618	

NOTIFICATION DATE	DELIVERY MODE
12/03/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/595,260	UEJIMA ET AL.	
	Examiner	Art Unit	
	April S. Guzman	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *20 and 21* is/are allowed.

6)☒ Claim(s) *11-19 and 22-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *03/31/06,06/05/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Claims 11-31 are pending in this application.

Response to Arguments

Applicant's arguments filed 10/02/2007 have been fully considered but they are not persuasive.

Applicant emphasizes the specific feature in claim 11 "a matching element including an inductor and capacitor disposed between the surface acoustic wave filter and the reception-side balanced output terminal." Applicant argues that Nakamata et al. fails to teach or suggest the feature of "a matching element including an inductor and capacitors disposed between the surface acoustic wave filter and the reception-side balanced output terminal" as recited in Applicant's Claim 11, and similarly in Applicant's Claim 22. Applicant respectfully submits that Kemmochi et al. and Nakamata et al., applied alone or in combination, fail to teach or suggest the unique combination and arrangement of features recited in Applicant's Claims 11 and 22.

The Examiner respectfully disagrees because Kemmochi et al. teach a circuit of high-frequency switch module comprising balanced-to-unbalanced transformers BAL1, BAL2 (read as matching element) having the functions of balanced-to-unbalanced transformation and impedance transformation are arranged on the downstream of the unbalanced-to unbalanced SAW filters fe2, fg2. The balance-to-unbalanced transformers BAL1 is constituted by transmission lines LG4, LG5, LG6, and the balanced-to-unbalanced transformer BAL2 is constituted by transmission lines LP4, LP5, LP6. These transmission lines are contained in the

laminate constituted by a plurality of dielectric layers (Kemmochi et al. - Figure 18, Figure 19, [0159]-[0162]). Furthermore, Nakamata et al. specifically teaches matching circuit, MAT10, MAT20. The matching circuit MAT10 includes distributed constant lines STLD4, STLD5, STLD6, STLD7, STLD9, and inductor LD3, capacitors CD6, CD7, CD8, CD9, CD10, CD11, CD12, CD13, CD14 and a chip resistor RD3. The distributed constant lines, the inductor and the capacitors constitute a low pass filter. The low pass filter has the function of matching the output impedance of the amplification circuit MMIC10 with the input impedance of the coupler COP10, and the function of reducing unwanted signals generated by the amplification circuit MMIC10 (Nakamata et al. - column 3 lines 38-65, column 4 lines 13-21, column 6 lines 1-11, and column 6 lines 56-67).

Consequently, in view of the above teachings of Kemmochi et al. as modified by Nakamata et al. and having addressed Applicant's arguments regarding independent claim 11, the rejection has been maintained and made Final by the Examiner.

Applicant's independent claim 22 recites features that are similar to the features recited in claim 11, including the above-emphasized features, therefore, in view of the sustained rejection of claim 11 discussed above, the rejection regarding independent claim 22 has been maintained and made Final by the Examiner.

Claims 12-19 and 23-31 depend upon claims 11 and 22, and therefore, the previous rejection to these claims has also been maintained and made Final by the Examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 11-19 and 22-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kemmochi et al. (U.S. Patent Application Publication # 2004/0032706 A1)** in view of **Nakamata et al. (U.S. Patent # 6,683,512)**.

Consider **claim 11**, Kemmochi et al. teach a high-frequency composite component ([0001], and [0012]-[0013]) comprising:

a switch for selectively switching a signal path between an antenna terminal and a transmission-side input terminal and a signal path between the antenna and a reception-side balanced output terminal ([0015], [0090], [0092], [0099], and [0158]-[0160]);

an LC filter including an inductor and capacitors disposed between the antenna terminal and the transmission-side input terminal ([0158]-[0161]);

a surface acoustic wave filter disposed between the switch and the reception-side balanced output terminal ([0092]-[0093], [0095]-[0097], and [0158]-[0161]); and

a matching element disposed between the surface acoustic wave filter and the reception-side balanced output terminal (Figure 18, Figure 19, and [0159]-[0162]).

However, Kemmochi et al. fail to teach the matching element including an inductor and capacitors; wherein the switch, the LC filter, the surface acoustic wave filter, and the matching element are integrated in a laminated block including a plurality of laminated dielectric layers.

In the related art, Nakamata et al. teach the matching element including an inductor and capacitors; wherein the switch, the LC filter, the surface acoustic wave filter, and the matching element are integrated in a laminated block including a plurality of laminated dielectric layers (Abstract, column 3 lines 45-65, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, column 10 lines 60-67, column 11 lines 9-51, and column 12 lines 9-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Nakamata et al. into the teachings of Kemmochi et al. for the purpose of reducing size and having advantageous characteristics with a

drastically improved power application efficiency at the antenna terminal wherein the characteristics of the module being optimally adjustable and therefore the power loss can be reduced, and the time required for designing a wireless terminal can be reduced for cost reduction.

Consider **claim 12, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor of the matching element is disposed in a first area of the laminated block, and the inductor and the capacitors of the LC filter are disposed in a second area different from the first area as viewed from above the laminated block (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 13, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor of the matching element is mounted on the surface of the laminated block, and the inductor and the capacitors of the LC filter are disposed inside the laminated block (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 14, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein a ground electrode is disposed between the inductor of the matching element and the inductor and the capacitors of the LC filter (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 15, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein a shunt capacitor of the capacitors of the LC filter is disposed in the vicinity of the lowermost layer of the laminated block (Kemmochi et al. – [0162]-[0163]).

Consider **claim 16, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor and the capacitors of the matching element are provided on the surface of the laminated block, and the inductor of the matching element is disposed so as to be directly next to the capacitors of the matching element with no other element therebetween (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 17, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the surface acoustic wave filter is a balanced-type surface acoustic wave filter having balanced output ports, the inductor of the matching element is connected in parallel between the balanced output ports, and the capacitors of the matching element are connected in series to the balanced output ports (Kemmochi et al. – [0090]-[0092], and [0095]-[0097]).

Consider **claim 18, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the surface acoustic wave filter is an unbalanced-type surface acoustic wave filter having unbalanced output ports, and the inductor and the capacitors of the matching element define a balun (Kemmochi et al. – [0008], and [0099]-[0102]).

Consider **claim 19, as applied to claim 11 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor of the matching element does not overlap with the inductor and the capacitors of the LC filter as viewed from above the laminated block (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 22**, Kemmochi et al. teach a high-frequency composite component ([0001], and [0012]-[0013]) comprising:

a switch for selectively switching a signal path between an antenna terminal and a transmission-side input terminal and a signal path between the antenna and a reception-side balanced output terminal ([0015], [0090], [0092], [0099], and [0158]-[0160]);

an LC filter disposed between the antenna terminal and the transmission-side input terminal ([0158]-[0161]);

a surface acoustic wave filter disposed between the switch and the reception-side balanced output terminal ([0092]-[0093], [0095]-[0097], and [0158]-[0161])

a matching element disposed between the surface acoustic wave filter and the reception-side balanced output terminal (Figure 18, Figure 19, and [0159]-[0162]).

However, Kemmochi et al. fail to teach wherein the switch, the LC filter, the surface acoustic wave filter, and the matching element are integrated in a laminated block including a plurality of laminated dielectric layers.

In the related art, Nakamata et al. teach wherein the switch, the LC filter, the surface acoustic wave filter, and the matching element are integrated in a laminated block including a plurality of laminated dielectric layers (Abstract, column 3 lines 45-65, column 5 lines 66-67,

column 6 lines 1-11, column 6 lines 56-67, column 10 lines 60-67, column 11 lines 9-51, and column 12 lines 9-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Nakamata et al. into the teachings of Kemmochi et al. for the purpose of reducing size and having advantageous characteristics with a drastically improved power application efficiency at the antenna terminal wherein the characteristics of the module being optimally adjustable and therefore the power loss can be reduced, and the time required for designing a wireless terminal can be reduced for cost reduction.

Consider **claim 23, as applied to claim 22 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the matching element includes an inductor and a plurality of capacitors, and the LC filter includes an inductor and a plurality of capacitors (Kemmochi et al. – [0158]-[0161]; Nakamata et al. - Abstract, column 3 lines 45-65, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, column 10 lines 60-67, column 11 lines 9-51, and column 12 lines 9-34).

Consider **claim 24, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor of the matching element is disposed in a first area of the laminated block, and the inductor and the plurality of capacitors of the LC filter are disposed in a second area different from the first area as viewed from above the laminated block (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 25, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor of the matching element is mounted on the surface of the laminated block, and the inductor and the plurality of capacitors of the LC filter are disposed inside the laminated block (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 26, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein a ground electrode is disposed between the inductor of the matching element and the inductor and the plurality of capacitors of the LC filter (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 27, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein a shunt capacitor of the plurality of capacitors of the LC filter is disposed in the vicinity of the lowermost layer of the laminated block (Kemmochi et al. – [0162]-[0163]).

Consider **claim 28, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor and the plurality of capacitors of the matching element are provided on the surface of the laminated block, and the inductor of the matching element is disposed so as to be directly next to the plurality of capacitors of the matching element with no other element therebetween (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Consider **claim 29, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the surface acoustic wave filter is a balanced-type surface acoustic wave filter having balanced output ports, the inductor of the matching element is connected in parallel between the balanced output ports, and the plurality of capacitors of the matching element are connected in series to the balanced output ports (Kemmochi et al. – [0090]-[0092], and [0095]-[0097]).

Consider **claim 30, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the surface acoustic wave filter is an unbalanced-type surface acoustic wave filter having unbalanced output ports, and the inductor and the plurality of capacitors of the matching element define a balun (Kemmochi et al. – [0008], and [0099]-[0102]).

Consider **claim 31, as applied to claim 23 above**, Kemmochi et al. as modified by Nakamata et al. further teach wherein the inductor of the matching element does not overlap with the inductor and the plurality of capacitors of the LC filter as viewed from above the laminated block (Kemmochi et al. – [0168]-[0170]; Nakamata et al. – column 3 lines 45-65, column 4 lines 13-21, column 5 lines 66-67, column 6 lines 1-11, column 6 lines 56-67, and column 11 lines 9-51).

Allowable Subject Matter

Claims 20 and 21 are allowed.

Consider **claims 20 and 21**, the best prior art of record found during the examination of the present application, **Kemmochi et al. (U.S. Patent Application Publication #**

2004/0032706 A1) in view of **Nakamata et al. (U.S. Patent # 6,683,512)**, alone or in combination fails to specifically disclose, teach, or suggest a high-frequency composite component comprising:

an antenna including a rear stage;

a diplexer disposed at the rear stage of the antenna terminal that branches a signal path for a first frequency band and a signal path for a second frequency band different from the first frequency band;

in the signal path for a first frequency band, a first switch for selectively switching a signal path between the antenna terminal and a first transmission-side input terminal and a signal path between the antenna terminal and a first reception-side balanced output terminal, a first LC filter having an inductor and capacitors disposed between the first switch and the first transmission-side input terminal, a first surface acoustic wave filter disposed between the first switch and the first reception-side balanced output terminal, and a first matching element having an inductor and capacitors disposed between the first surface acoustic wave filter and the first reception-side balanced output terminal;

in the signal path for a second frequency band, a second switch for selectively switching a signal path between the antenna terminal and a second transmission-side input terminal and a signal path between the antenna terminal and second and third reception-side balanced output terminals, a second LC filter having inductors and capacitors disposed between the second switch and the second transmission-side input terminal, a duplexer branching a signal path disposed between the second switch and the second reception-side balanced output terminal and a signal path disposed between the second switch and the third reception-side balanced output

terminal, a second surface acoustic wave filter disposed between the duplexer and the second reception-side balanced output terminal, a second matching element having an inductor and capacitors disposed between the second surface acoustic wave filter and the second reception-side balanced output terminal, a third surface acoustic wave filter disposed between the duplexer and the third reception-side balanced output terminal, and a third matching element having an inductor and capacitors disposed between the third surface acoustic wave filter and the third reception-side balanced output terminal; wherein

the diplexer, the first and second switches, the first and second LC filters, the first, second, and third surface acoustic wave filters, and the first, second, and third matching elements are integrated in a laminated block including a plurality of laminated dielectric layers.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: see PTO-892 Notice of Reference Cited.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

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401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to April S. Guzman whose telephone number is 571-270-1101. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lana Le can be reached on 571-272-7891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April S. Guzman
A.S.G/asg

11-15-07

LANA LE
PRIMARY EXAMINER